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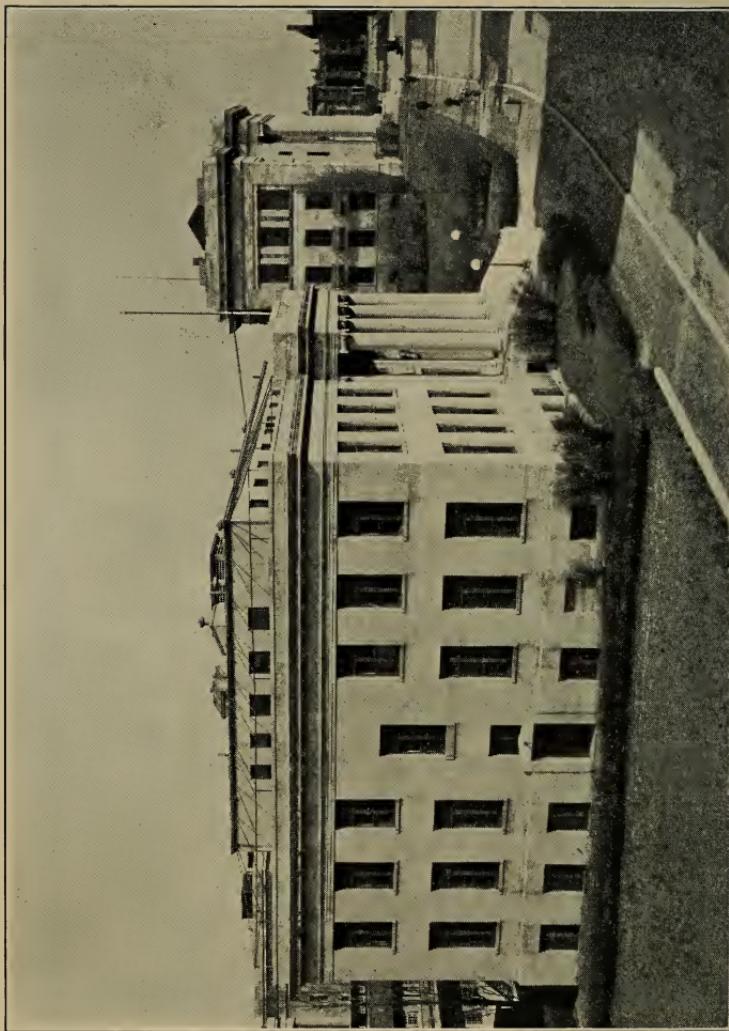
THE
HARVARD SCHOOL OF
PUBLIC HEALTH

55 VAN DYKE STREET, BOSTON, MASS.

1923-24



PUBLISHED BY HARVARD UNIVERSITY



BUILDING OF THE SCHOOL OF PUBLIC HEALTH

Buildings of the Harvard Medical School and of the Children's Hospital showing in the background

ANNOUNCEMENT
OF THE
HARVARD SCHOOL OF
PUBLIC HEALTH
55 VAN DYKE STREET, BOSTON, MASS.
OF
HARVARD UNIVERSITY
FOR
1923-24



PUBLISHED BY HARVARD UNIVERSITY

1923

1924

JULY							JANUARY							JULY						
Su	Mo	Tu	W	Th	Fr	Sa	Su	Mo	Tu	W	Th	Fr	Sa	Su	Mo	Tu	W	Th	Fr	Sa
1	2	3	(4)	5	6	7	..	..	(1)	2	3	4	5	..	..	1	2	3	(4)	5
8	9	10	11	12	13	14	6	7	8	9	10	11	12	6	7	8	9	10	11	12
15	16	17	18	19	20	21	13	14	15	16	17	18	19	13	14	15	16	17	18	19
22	23	24	25	26	27	28	20	21	22	23	24	25	26	20	21	22	23	24	25	26
29	30	31	..	..	..	..	27	28	29	30	31	..	..	27	28	29	30	31	..	..
AUGUST							FEBRUARY							AUGUST						
..	..	1	2	3	4	..	..	..	..	..	1	2	..	..	..	..	..	..	1	2
5	6	7	8	9	10	11	3	4	5	6	7	8	9	3	4	5	6	7	8	9
12	13	14	15	16	17	18	10	11	12	13	14	15	16	10	11	12	13	14	15	16
19	20	21	22	23	24	25	17	18	19	20	21	(22)	23	17	18	19	20	21	22	23
26	27	28	29	30	31	..	24	25	26	27	28	29	..	24	25	26	27	28	29	30
SEPTEMBER							MARCH							SEPTEMBER						
..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..
2	(3)	4	5	6	7	8	2	3	4	5	6	7	8	7	8	9	10	11	12	13
9	10	11	12	13	14	15	9	10	11	12	13	14	15	14	15	16	17	18	19	20
16	17	18	19	20	21	22	16	17	18	19	20	21	22	21	22	23	24	25	26	27
23	24	25	26	27	28	29	23	24	25	26	27	28	29	28	29	30	..	..	..	..
30	..	..	..	..	..	..	30	31	..	..	..	..	..	..	..	..	..	..	..	..
OCTOBER							APRIL							OCTOBER						
..	1	2	3	4	5	6	..	..	1	2	3	4	5	..	..	..	1	2	3	4
7	8	9	10	11	(12)	13	6	7	8	9	10	11	12	5	6	7	8	9	10	11
14	15	16	17	18	19	20	13	14	15	16	17	18	(19)	(12)	13	14	15	16	17	18
21	22	23	24	25	26	27	20	21	22	23	24	25	26	19	20	21	22	23	24	25
28	29	30	31	..	..	..	27	28	29	30	..	..	..	26	27	28	29	30	31	..
NOVEMBER							MAY							NOVEMBER						
..	..	..	..	1	2	3	..	..	..	1	2	3	..	..	..	..	..	..	..	1
4	5	6	7	8	9	10	4	5	6	7	8	9	10	2	3	4	5	6	7	8
11	12	13	14	15	16	17	11	12	13	14	15	16	17	9	10	11	12	13	14	15
18	19	20	21	22	23	24	18	19	20	21	22	23	24	16	17	18	19	20	21	22
25	26	27	28	(29)	30	..	25	26	27	28	29	(30)	31	23	24	25	26	(27)	28	..
DECEMBER							JUNE							DECEMBER						
..	..	..	..	..	..	1	1	2	3	4	5	6	7	..	1	2	3	4	5	6
2	3	4	5	6	7	8	8	9	10	11	12	13	14	7	8	9	10	11	12	13
9	10	11	12	13	14	15	15	16	17	18	19	20	21	14	15	16	17	18	19	20
16	17	18	19	20	21	22	22	23	24	25	26	27	28	21	22	23	24	(25)	26	27
23	24	(25)	26	27	28	29	29	30	28	29	30	31

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CALENDAR

1923

Sept. 24, Monday. ACADEMIC YEAR BEGINS. Registration of students. Payment of the first instalment of the tuition fee is required on this date.

Oct. 12, Friday. Columbus Day: a holiday.

Nov. 28, Wednesday. Payment of the second instalment of the tuition fee is required on or before this date.

Nov. 29, Thursday. Thanksgiving Day: a holiday.

RECESS FROM DEC. 23, 1923, THROUGH JAN. 2, 1924, INCLUSIVE

1924

Jan. 1, Tuesday. New Year's Day: a holiday.

Jan. 29, Tuesday. Payment of the third instalment of the tuition fee is required on or before this date.

Jan. 31, Thursday. SECOND HALF-YEAR BEGINS.

Feb. 22, Friday. Washington's Birthday: a holiday.

RECESS FROM APRIL 14 TO APRIL 20, INCLUSIVE

April 28, Monday. Payment of the fourth instalment of the tuition fee is required on or before this date.

May 30, Friday. Memorial Day: a holiday.

June 19, Thursday. COMMENCEMENT.

SUMMER VACATION, FROM COMMENCEMENT TO SEPTEMBER 21, INCLUSIVE

In order to insure equal periods of time for the various monthly courses, the following dates have been arbitrarily fixed:

<i>Mon. Sept. 24-Wed. Oct. 24</i>	OCTOBER
<i>Th. Oct. 25-Wed. Nov. 21</i>	NOVEMBER
<i>Th. Nov. 22-Sat. Dec. 22¹</i>	DECEMBER
<i>Th. Jan. 3-Wed. Jan. 30</i>	JANUARY
<i>Th. Jan. 31-Th. Feb. 28</i>	FEBRUARY
<i>Fri. Feb. 29-Th. Mar. 27</i>	MARCH
<i>Fri. Mar. 28-Th. May 1²</i>	APRIL
<i>Fri. May 2-Sat. May 31</i>	MAY

¹ Christmas vacation December 23-January 2.

² Easter Vacation April 14-19.

THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE

This Board is commonly known as the CORPORATION.

PRESIDENT

ABBOTT LAWRENCE LOWELL, A.B., LL.B., LL.D., PH.D.
17 Quincy St., Cambridge

FELLOWS

HENRY PICKERING WALCOTT, A.B., M.D., LL.D.
11 Waterhouse St., Cambridge

THOMAS NELSON PERKINS, A.B., LL.B. 60 State St., Boston

WILLIAM LAWRENCE, A.B., D.D., LL.D., D.C.L.
122 Commonwealth Ave., Boston

JOHN FARWELL MOORS, A.M., LL.D. 32 Mt. Vernon St., Boston

JAMES BYRNE, A.B., LL.B. 24 Broad St., New York, N.Y.

TREASURER

CHARLES FRANCIS ADAMS, A.B., LL.B. 50 State St., Boston

DEPUTY TREASURER

GORHAM BROOKS, A.B. 50 State St., Boston

SECRETARY TO THE CORPORATION

FRANCIS WELLES HUNNEWELL, A.B., LL.B.
5 University Hall, Cambridge

THE BOARD OF OVERSEERS

The PRESIDENT and TREASURER of the University, *ex-officio*, and the following persons by election:—

1923 *

FRANCIS JOSEPH SWAYZE, A.M., LL.D.	765 High St., Newark, N.J.
LEONARD WOOD, M.D., LL.D., D.C.L., M.S.D.	Manila, Philippine Islands
ARTHUR WOODS, A.M.	32 East 36th St., New York, N.Y.
JEROME DAVIS GREENE, A.M.	43 Exchange Place, New York, N.Y.
FRANKLIN DELANO ROOSEVELT, A.B., LL.D.	Hyde Park, N.Y.

1924

HENRY CABOT LODGE, Ph.D., LL.B., LL.D.	United States Senate, Washington, D.C.
GEORGE WIGGLESWORTH, A.M., LL.B.	40 Central St., Boston
FRANCIS RANDALL APPLETON, A.B., LL.B.	26 East 37th St., New York, N.Y.
IRA NELSON HOLLIS, A.M., L.H.D., S.D.	Worcester Polytechnic Institute, Worcester
PAUL REVERE FROTHINGHAM, A.M., S.T.B.	294 Beacon St., Boston

1925

EDWARD HICKLING BRADFORD, A.M., M.D.	220 Beacon St., Boston
OWEN WISTER, A.M., LL.B., LL.D., L.H.D.	1004 West End Trust Building, Philadelphia, Pa.
JULIAN W. MACK, LL.B.	Woolworth Building, New York, N.Y.
THOMAS WILLIAM LAMONT, A.B.	23 Wall St., New York, N.Y.
ELLERY SEDGWICK, A.B.	8 Arlington St., Boston

* The term expires, in each case, on Commencement Day of the year indicated.

1926

WILLIAM ROSCOE THAYER, A.M., LL.D., L.H.D., LITT.D.
8 Berkeley St., Cambridge

EDWIN FRANCIS GAY, PH.D., LL.D. 20 Vesey St., New York, N.Y.

LOUIS ADAMS FROTHINGHAM, A.B., LL.B.
House of Representatives, Washington, D. C.

NORWOOD PENROSE HALLOWELL, A.B. 44 State St., Boston

ROGER WOLCOTT, LL.B., 60 State St., Boston

1927

EDGAR CONWAY FELTON, A.B. Haverford, Pa.

HOMER GAGE, A.B., M.D., A.M. 8 Chestnut St., Worcester

LANGDON PARKER MARVIN, A.B., A.M., LL.B.
52 Wall St., New York, N.Y.

JAMES JACKSON, A.B. State House, Boston

CHARLES H. BRENT, S.T.D. 237 North St., Buffalo, N.Y.

1928

CHARLES ALLERTON COOLIDGE, ART.D.
122 Ames Building, Boston

WILLIAM SYDNEY THAYER, M.D., LL.D., F.R.C.S.
1208 Eutaw Place, Baltimore, Md.

HENRY JAMES, LL.B. 10 East 10th St., New York, N.Y.

SAMUEL SMITH DRURY, LITT.D., D.D.
St. Paul's School, Concord, N.H.

BENJAMIN LORING YOUNG, LL.B. Auburndale

—
SECRETARY OF THE BOARD OF OVERSEERS

WINTHROP HOWLAND WADE, A.M., LL.B.
321 Shawmut Bank Building, Boston

FACULTY

ABBOT LAWRENCE LOWELL, A.B., LL.B., LL.D., Ph.D., President.	17 Quincy St., Cambridge
DAVID L. EDSALL, A.M., M.D., S.D., Dean.	50 Concord Ave., Cambridge
MILTON J. ROSENAU, M.D., A.M. <i>Charles Wilder Professor of Preventive Medicine and Hygiene.</i>	65 Naples R'd, Brookline
ALICE HAMILTON, M.D., A.M. <i>Assistant Professor of Industrial Medicine.</i>	227 Beacon St., Boston
GEORGE C. WHIPPLE, S.B. <i>Gordon McKay Professor of Sanitary Engineering.</i>	6 Berkeley Pl., Cambridge
RICHARD P. STRONG, Ph.B., M.D., S.D. <i>Professor of Tropical Medicine.</i>	225 Brattle St., Cambridge
WALTER B. CANNON, A.M., M.D. <i>George Higginson Professor of Physiology.</i>	2 Divinity Ave., Cambridge
ERNEST E. TYZZER, Ph.B., A.M., M.D. <i>George Fabyan Professor of Comparative Pathology.</i>	175 Water St., Wakefield
C. MACFIE CAMPBELL, A.M., S.B., M.B., Ch.B., M.D. <i>Professor of Psychiatry.</i>	58 Lake View Ave., Cambridge
LAWRENCE J. HENDERSON, A.B., M.D. <i>Professor of Biological Chemistry.</i>	4 Willard St., Cambridge
EDWIN B. WILSON, A.B., Ph.D. <i>Professor of Vital Statistics.</i>	42 Brington R'd, Brookline
HANS ZINSSER, A.M., M.D. <i>Professor of Bacteriology and Immunology.</i>	Harvard Medical School ¹
MARSHALL FABYAN, A.B., M.D. <i>Assistant Professor of Comparative Pathology.</i>	379 Commonwealth Ave., Boston
EDWIN H. PLACE, M.D. <i>Assistant Professor of Pediatrics.</i>	745 Massachusetts Ave., Boston
GEORGE C. SHATTUCK, A.B., M.D., A.M. <i>Assistant Professor of Tropical Medicine.</i>	135 Marlborough St., Boston
ROGER I. LEE, A.B., M.D. <i>Henry K. Oliver Professor of Hygiene.</i>	7 Lowell St., Cambridge
RICHARD M. SMITH, A.B., M.D. <i>Assistant Professor of Child Hygiene.</i>	355 Marlborough St., Boston
ANDREW W. SELLARDS, A.M., M.D. <i>Assistant Professor of Tropical Medicine.</i>	402 Marlborough St., Boston
CECIL K. DRINKER, S.B., M.D. <i>Associate Professor of Applied Physiology.</i>	101 Colchester St., Brookline
JOSEPH C. AUB, A.B., M.D. <i>Assistant Professor of Applied Physiology.</i>	402 Marlborough St., Boston
LLOYD D. FELTON, A.B., M.D. <i>Assistant Professor of Preventive Medicine and Hygiene.</i>	341 Mt. Auburn St., Cambridge

OTHER INSTRUCTORS AND ASSISTANTS

WALTER E. FERNALD, M.D., A.M. <i>Associate in Psychiatry.</i>	Waverley
JOSEPH W. SCHERESCHEWSKY, A.B., M.D. <i>Associate in Preventive Medicine and Hygiene.</i>	16 Russell St., Arlington
ARTHUR B. EMMONS, 2d, A.B., M.D. <i>Instructor in the Practice of Industrial Medicine.</i>	Dover
WILLIAM I. CLARK, Jr., A.B., M.D. <i>Instructor in the Practice of Industrial Medicine.</i>	53 West St., Worcester
G. BENJAMIN WHITE, Ph.B., Ph.D. <i>Instructor in Preventive Medicine and Hygiene, and Director of State Laboratory of Antitoxin and Vaccine.</i>	375 South St., Jamaica Plain
MELVILLE C. WHIPPLE, <i>Instructor in Sanitary Engineering.</i>	6 Craigie Circle, Cambridge
WILLIAM A. HINTON, S.B., M.D. <i>Instructor in Preventive Medicine and Hygiene, and Assistant Director of Wassermann Laboratory.</i>	Dedham St., Canton
HARRY LINENTHAL, A.B., M.D. <i>Instructor in Industrial Medicine.</i>	45 Bay State R'd, Boston
LOUIS A. SHAW, A.B. <i>Instructor in Applied Physiology.</i>	6 Marlborough St., Boston
WADE WRIGHT, S.B., M.D. <i>Instructor in Industrial Medicine.</i>	Massachusetts General Hospital
LAWRENCE T. FAIRHALL, M.S., A.M., Ph.D. <i>Instructor in Applied Physiology.</i>	10 Dana St., Cambridge
WALTER L. TREADWAY, M.D. <i>Associate in Preventive Medicine and Hygiene.</i>	
PHILIP DRINKER, S.B., Ch.E. <i>Instructor in Ventilation and Illumination.</i>	369 Cabot St., Newtonville
HAROLD E. SMILEY, Ph.B., M.S., M.D. <i>Teaching Fellow in Hygiene.</i>	1043 Broad St., Providence, R. I.
ROBERT N. NYE, A.B., M.D. <i>Assistant in Preventive Medicine and Hygiene, and Assistant Director of State Laboratory of Antitoxin and Vaccine.</i>	295 Clinton R'd, Brookline
GEORGE B. RAY, S.B., A.M., Ph.D. <i>Instructor in Applied Physiology.</i>	93 Binney St., Boston
LOUIS R. DANIELS, M.D. <i>Instructor in the Practice of Industrial Medicine.</i>	36 Commonwealth R'd, Watertown
GARLAND H. BAILEY, S.B., M.D., Dr.P.H. <i>Instructor in Preventive Medicine and Hygiene.</i>	220 Hemenway St., Boston
HAROLD W. STEVENS, A.B., M.D. <i>Assistant in Industrial Medicine.</i>	281 Park St., Newton

PAUL REZNIKOFF, S.B., M.D. <i>Assistant in Applied Physiology.</i>	105 Gainsboro St., Boston
GORDON M. FAIR, S.B. <i>Instructor in Sanitary Engineering.</i>	10 Chauncy St., Cambridge
ROBERT M. THOMSON. <i>Assistant in Ventilation and Illumination.</i>	127 Paul Gore St., Jamaica Plain
JOHN W. S. BRADY, A.B., M.D. <i>Instructor in Industrial Medicine.</i>	1 Court Lane, Concord
DERRIC C. PARMENTER, A.B., M.D. <i>Assistant in Industrial Medicine.</i>	68 Pinckney St., Boston
MAX THEILER, M.R.C.S., L.R.C.P., D.T.M. + H. <i>Assistant in Tropical Medicine.</i>	19 Brook St., Brookline
JULIO C. GUZMAN, S.B., M.D. <i>Assistant in Comparative Pathology.</i>	538 Newbury St., Boston

The names of other lecturers and special teachers appear under the various courses in which they give instruction.

ADMINISTRATIVE OFFICERS

President: ABBOTT LAWRENCE LOWELL, A.B., LL.B., LL.D., Ph.D.
Office, 5 University Hall, Cambridge.

Dean: DAVID L. EDSELL, A.M., M.D., S.D.
Office, School of Public Health, 55 Van Dyke Street, Boston.

Secretary: SUSAN C. LYMAN.
Office, School of Public Health, 55 Van Dyke Street, Boston.

ADMINISTRATIVE BOARD

President, A. LAWRENCE LOWELL, A.B., LL.B., LL.D., Ph.D. (*ex-officio*).

Dean, DAVID L. EDSELL, A.B., M.D., S.D. (*ex-officio*) *Chairman.*

MILTON J. ROSENAU, M.D., A.M., *Professor of Preventive Medicine and Hygiene.*

EDWIN B. WILSON, A.B., Ph.D., *Professor of Vital Statistics.*

ROGER I. LEE, A.B., M.D., *Professor of Hygiene.*

CECIL K. DRINKER, S.B., M.D., *Associate Professor of Applied Physiology.*

THE HARVARD SCHOOL OF PUBLIC HEALTH

HISTORICAL STATEMENT

THE HARVARD SCHOOL OF PUBLIC HEALTH first gave instruction to students in the academic year 1922-23. For many years activity in public health had been rapidly increasing in Harvard University. The influence of the University upon public health through the pioneering and long-continued efforts of Dr. Henry P. Walcott, senior member of the Harvard Corporation, was important and far-reaching. Courses in the various departments had been gradually developed to meet the need for men trained to conserve public health. The field of public health is so broad that it is not strange that this School did not find its origin in any one department. The records show certain important steps in what has been essentially a gradual development. In 1909 a department of Preventive Medicine and Hygiene was established in the Medical School. The degree of Doctor of Public Health was first conferred in 1911. In this same year a department of Sanitary Engineering was inaugurated in the Engineering School. In 1913 a department of Tropical Medicine was formed. In 1918 a Division of Industrial Hygiene with clinical and laboratory facilities was organized in the Harvard Medical School.

Besides these activities which were directly concerned with the training of men for public health work, research was being carried on in the regular departments of the Harvard Medical School in Bacteriology, Pathology, Parasitology, Physiology, Bio-Chemistry, and others, which had perhaps a less direct but very real bearing on the development of the science of public health. On analysis it appeared that there were many activities under the various faculties of Harvard University besides those of Medicine and Engineering that had some bearing on public health. Under the Faculty of Arts and Sciences there were many courses, such as those in Physics, Chemistry, Zoölogy, Social Ethics, etc., which formed in certain cases important parts of the training of individuals for work in public health. In addition, under the Faculty of Arts and Sciences, a department of Hygiene had been established in 1914, which undertook the supervision of the health of the students in its broadest aspect. This department had collected much data of considerable value in public health.

In 1913 the "Harvard-Technology" School of Public Health was organized. It was under the joint management of Harvard University,

and the Massachusetts Institute of Technology. This School continued to operate until the fall of 1922, when, with the inauguration of the new Harvard School of Public Health, the "Harvard-Technology" School, as such, ceased to exist. However, the Massachusetts Institute of Technology continues to coöperate with the Harvard School of Public Health and also offers courses in public health through its department of Biology and Public Health, leading to the several degrees: bachelor, master, and doctor of science, doctor of philosophy, and to the certificate of public health.

As a result of these activities, the University found itself in possession of a substantial nucleus upon which to erect a new School of Public Health of larger scope, and in 1921, received from the Rockefeller Foundation a generous endowment for this purpose, known as the Henry P. Walcott Fund of Harvard University. This gift made it possible, first, to correlate and to enlarge the various departments already existing, such as Preventive Medicine and Hygiene, Bacteriology, Sanitary Engineering, Tropical Medicine, Parasitology, and Industrial Hygiene; second, to create a department of Vital Statistics and to develop new special fields of instruction, as Public Health Administration, Child Hygiene, Mental Hygiene, Communicable Diseases, and Ventilation and Illumination and lastly, to purchase a building standing on land adjacent to that occupied by the Medical School in which to house the administration and the various groups concerned with the work of public health.

GENERAL STATEMENT

PURPOSE

It is the object of the School of Public Health to provide the scientific groundwork of expert knowledge which underlies efficient health administration together with some actual personal acquaintance with modern public health practice of the best types and thus to prepare students for careers in public health. The School of Public Health offers courses and opportunities to fit students for administrative, teaching, field, or laboratory positions. To this end, lectures, laboratory work, hospital exercises, field surveys, and other forms of instruction are offered by members of the Faculty and by special instructors actively engaged in public health work. Coöperation is also maintained with federal, state, and local health departments, and with hospitals and other agencies. Favorable opportunity will be given to those who desire to contribute to knowledge through laboratory research or field investigation.

FACILITIES

Boston affords unusually good opportunities to study the operation and administration of state and municipal departments of health. Immediately adjacent to the School of Public Health is the Medical School of Harvard University with its well-equipped laboratories and other facilities. In connection with the Port of Boston, the Federal Government maintains maritime quarantine, immigration, medical and other health services. There are several large hospitals available for study and research in the communicable diseases. Abundant material for study of problems of mental hygiene may be found at the Psychopathic Hospital and at the Massachusetts School for Feeble-Minded at Waverley. In Boston are found the health problems of a metropolitan center, and within easy reach, those of large and small towns, as well as of country districts. Boston is an industrial center and its varied industries serve the purpose of industrial hygiene and industrial medicine. All the usual philanthropic health activities, such as baby hygiene stations, the Red Cross, anti-tuberculosis organizations, district and public health nursing services, and many other similar agencies are active in and around Boston. The School of Public Health is able to take advantage of these and other special opportunities.

PROGRAMS OF STUDY

Students come to the School not only differing widely in their previous training, but also in their plans for work. Opportunity is therefore offered to follow programs of study in accordance with individual requirements. It is impossible to list in a catalogue such programs in terms of formal courses. Indeed there may be different programs within a single field. The catalogue and the tabular view are to be regarded only as indicating some of the more elementary formal courses. Each student is assigned to a member of the Faculty for advice and guidance in selecting his program, which must finally have the approval of the Administrative Board of the School. It is possible for those who want to specialize in Vital Statistics, Tropical Medicine, Sanitary Engineering, Epidemiology, Public Health Bacteriology, Mental Hygiene, Child Hygiene, Industrial Hygiene, etc., to arrange desirable programs.

OPPORTUNITIES FOR PART-TIME WORK

Courses have been planned in such a way that students unable to spend a full academic year at the School may come for one or more months and secure courses in some special field. During the past year condensed courses lasting one full month were offered in Child Hygiene,

Mental Hygiene, and Industrial Medicine. Courses covering a half-day for two months were offered in Vital Statistics, Sanitary Engineering, Tropical Medicine, and Communicable Diseases. Still others, such as Ventilation and Illumination, Parasitology and Public Health Bacteriology were given for half a day during one month. It is believed that such an arrangement will enable men already in the active field of Public Health to devote a limited amount of time to the study of one or two particular subjects. A glance at the tabular view (page 47) will give an idea of the possibilities of this plan for certain elementary courses. Students are thus able not only to take the intensive courses formally offered during the period that they are at the School, but to fit into their programs other training in special fields by individual arrangement with local laboratories, health agencies, and hospitals.

ADMISSION REQUIREMENTS

The candidates for the several degrees must satisfy the Administrative Board of their academic fitness (1) by a medical degree from an approved medical school, or (2) by evidence of adequate training in English and other modern languages, physics, inorganic, organic and bio-chemistry, biology, anatomy, histology, physiology, pathology, and bacteriology. The training indicated under (2) represents the minimum requirements for entrance to the Harvard Medical School, plus certain of the fundamental medical sciences of the first two years of the Medical School.

The mere completion of courses is not ordinarily satisfactory evidence of the fitness of a prospective student. The Administrative Board may require further evidence of present ability to utilize the training received, and ability to profit by the courses administered by the School. The medical degree (M.D.) is a prerequisite for the degree of Doctor of Public Health but not for the Bachelor of Public Health, the Master of Public Health, or the Doctor of Philosophy in Hygiene.

Those who do not meet the academic requirements for admission as candidates for degrees may be admitted as students to certain courses and programs of study at the discretion of the Administrative Board.

Opportunities are offered to research students who may desire to investigate special health problems or to make surveys without reference to a degree.

All inquiries and communications should be addressed to the Secretary of the Harvard School of Public Health, 55 Van Dyke Street, Boston, Mass., who will forward upon request catalogues, admission blanks, fellowship applications, and any other information desired. It will expedite matters in regard to admission of prospective students

if they will supply the following information to the Secretary at the earliest possible date: (1) Date and place of birth; (2) Academic Education; (3) Medical Education; (4) Languages read and spoken; (5) Experience or professional career; (6) Proposed length of stay; (7) Special training desired.

DEGREES

1. BACHELOR OF PUBLIC HEALTH

Prerequisites: The student must give evidence of having had satisfactory training in modern languages, physics, inorganic, organic and bio-chemistry, and in biology, physiology, anatomy, histology, pathology, and bacteriology. The total courses above outlined represent about four years' work of college grade and are the requirements to candidacy for a degree in the School of Public Health.

The satisfactory completion of an approved program of at least one year in the School of Public Health will be necessary to obtain the degree of Bachelor of Public Health.

2. MASTER OF PUBLIC HEALTH

The master's degree represents one year of advanced work following the bachelor's degree in Public Health, or its equivalent. The candidate's program must be presented in writing and be approved by the Administrative Board. Candidates for this degree must spend a minimum of one year in residence at this University and attain a high degree of scholarship.

3. DOCTOR OF PHILOSOPHY (IN HYGIENE)

The degree of Doctor of Philosophy is granted by the University on recommendation of the Division of Medical Sciences of the Faculty of Arts and Sciences in the following special fields:

- Anatomy, including comparative anatomy.
- Embryology, including microscopic anatomy.
- Physiology or comparative physiology.
- Biological chemistry.
- Pathology or comparative pathology.
- Bacteriology.
- Pharmacology.
- Hygiene.

Properly qualified students in public health have the opportunity to obtain the Doctorate in Philosophy in the field most closely allied to

their special interests. This degree is administered by the Faculty of Arts and Sciences and in accordance with their regulations. Candidates for the degree of Doctor of Philosophy must fulfil certain preliminary requirements, must devote to approved advanced studies not less than two years, — at least one of which must be spent in residence at this University — and must pass general examinations and present an account of original work in an accepted thesis, before being granted the degree.

4. DOCTOR OF MEDICAL SCIENCES

The degree of Doctor of Medical Sciences is administered by the Faculty of Medicine in accordance with their regulations. Further information concerning this degree may be had upon application.

The degrees of Doctor of Philosophy and Doctor of Medical Sciences are designed for those who wish to become productive scholars.

5. DOCTOR OF PUBLIC HEALTH

The degree of Doctor of Public Health is open only to those who have recently received a doctor's degree (M.D.) from an approved medical school.

Candidates for the degree of Doctor of Public Health may pursue one of two courses: (1) They may plan their work broadly as a preparation for administrative positions; or (2) they may concentrate on the study and investigation of a special field.

Applicants for the degree of Doctor of Public Health must present their proposed programs in writing for approval before they will be accepted as candidates for the degree. Special programs will be arranged to suit individual cases. Consideration may be given for work done in other institutions and for public health experience, as a result of which the student may be admitted to advanced standing. Studies leading to the degree need not be confined wholly to the School of Public Health, but may include work in any suitable department of the University. Ordinarily the program of study for this degree will require two academic years, at least one of which must be spent in residence at this University.

The degree will not be given for mere faithful study for a prescribed time, but only for high scholarly attainment in an approved program, in connection with which each candidate will be required to present a thesis. The final examinations will be oral and will consist of a searching inquiry into the candidate's attainments in his principal field and will also test the candidate's breadth of knowledge on any topics within the domain of hygiene and sanitation.

FEES AND EXPENSES

The fees are: For instruction (including laboratory charges except breakage, damage, and loss of apparatus), \$300 for one year; for a half-year alone, \$180. The tuition will be charged on term bills issued and payable as follows: one-fourth on the term bill issued and payable September 24th, 1923, one-fourth on the term bill issued November 13th and payable November 30th, one-fourth on the term bill issued January 12th and payable January 30th, and one-fourth on the term bill issued April 12th and payable April 30th. Students desiring to take single courses may do so at the rate of \$50 for one full month's work, payable in advance.

Bills for miscellaneous charges will be rendered at the time the indebtedness is incurred.

All indebtedness to the University must be paid by all candidates for degrees at least one day before Commencement.

Students who are candidates for degrees in the middle of the academic year must pay all dues to the University at least one day before the day upon which the degrees are to be voted.

A student who leaves during the year is charged to the end of the tuition period in which he leaves, provided before that time he gives the Dean notice in writing of his withdrawal; otherwise he is charged to the end of the academic year or to the end of the tuition period in which such notice is given.

When a student's connection with the University is severed, all charges against him must be paid at once.

No degree can be granted until the student has paid the full tuition fee for each year in which he has been registered as a member of the School.

Any student whose indebtedness to the University remains unpaid on the date fixed for payment is deprived of the privileges of the University until he is reinstated. Reinstatement is obtained only by consent of the Dean of the Department in which the student is enrolled, after payment of all indebtedness and a reinstatement fee of \$10. A student may rent a microscope from the School upon application to the Committee on Microscopes, but the School offers no guarantee that it will keep on hand a sufficient number of such instruments to furnish one for each student; students are strongly urged to buy their own microscopes. A deposit of \$1 with the Dean will entitle the student to the use of a locker in the School buildings.

STILLMAN INFIRMARY FEE

Not later than October 1 in each academic year, any student may pay to the Bursar the sum of \$7 for the maintenance of the Stillman Infirmary; and, on the order of a physician, every student who has taken advantage of this opportunity will be given, in case of sickness, in return for the fee, a bed in a ward, board, and ordinary nursing for a period not exceeding two weeks in any one academic year.

The School of Public Health provides a physician to students who will give physical examination or medical treatment without charge, during his office hours, or at other times by appointment.

BOND REQUIRED OF STUDENTS

Every student is required to file with the Bursar on his entrance to the School a bond of \$50 executed by two sufficient bondsmen (one of whom must be a citizen of the United States or by a surety company duly qualified to do business in Massachusetts, or he may deposit with the Bursar fifty dollars in United States bonds), or to deposit \$50 in money, to cover the loss or injury of any property belonging to the University, or for which it is responsible. If the student desires to rent a microscope a bond of \$100 must be filed instead of one of \$50. Blank forms of bonds may be obtained at the Dean's Office or from the Bursar. No officer or student of the University is accepted as a bondsman. *Students will be held responsible for the payment of fees until they have notified the Dean, in writing, of their intention to withdraw from the School and have subsequently received their bond from the Bursar.*

LOCATION AND BUILDINGS

The School of Public Health is located at 55 Van Dyke Street. The building, formerly occupied by the Infants' Hospital, is large and adequate to meet the needs of the growing School of Public Health. It stands on land adjacent to that occupied by the Medical School and in close proximity to the Peter Bent Brigham Hospital, the Children's Hospital, the Collis P. Huntington Hospital, and the new Lying-In Hospital. The Boston Psychopathic Hospital is also within a few blocks. The students of the School of Public Health will have the privilege of the full use of the Harvard Medical School buildings.

LIBRARIES

The Library of the School of Public Health will be combined with the central library of the Harvard Medical School. This library is housed in Charles B. Porter Hall in the Administration Building, and in the other buildings are branch libraries. By an arrangement with the Peter Bent Brigham Hospital the library facilities of the three institutions are combined in the central library. This library is open from 9 A.M. until 10 P.M., on Saturdays from 9 A.M. until 1 P.M. The present number of volumes in the library is 35,666, and in addition there are 71,393 pamphlets and 290 current periodicals kept on file.

The College Library at Cambridge is open to the students of this School.

The Boston Public Library is open to students who are inhabitants of Boston. Students, not inhabitants of Boston, who have filed a bond at the Bursar's office, or deposited with the Bursar the sum of fifty dollars, may also use this library. The Bursar will furnish on application the necessary certificate of bond or deposit.

The Boston Medical Library, No. 8, The Fenway, contains about 84,000 bound volumes and 56,000 pamphlets, and nearly 650 current periodicals are on file. This very valuable library is open to those who desire to consult medical literature, on week days from 9.30 A.M. to 10 P.M., on Saturdays till 6 P.M.

FELLOWSHIPS

The School offers a limited number of fellowships of \$1200 each. These fellowships are open to students of high scholarship and exceptional ability. Men whose experience and training have fitted them to pursue an original piece of research work along lines of Public Health will be given preference. No fellowship will be granted to a student spending less than one academic year at the School.

Applications for fellowships should be filed with the Secretary of the School of Public Health.

ANNOUNCEMENT OF COURSES

INTRODUCTORY NOTE

The public health field is very diverse and being new has not yet been subdivided into special distinct disciplines. It is therefore important for each student who desires to enter the public health field to come at least to a preliminary conclusion as to the general line of work which he desires to follow after a careful consideration of his own preparation and preference.

The University believes that education for public health in its present state of development will be better served by placing before the prospective student not so much the detail of special courses, curricula, or tabular views, as a general suggestion as to the manifold opportunities which the University offers to those who desire to enter this field.

BACTERIOLOGY

HANS ZINSSER, A.B., A.M., M.D., *Professor of Bacteriology and Immunology, and assistants.*

Bacteriology A 1

Three afternoons a week (Monday, Wednesday, and Friday) for four months (October, November, December, and January).

This course is the regular Medical School course, and provided there is adequate accommodation, is open to students in the School of Public Health who are insufficiently prepared in bacteriology and immunology.

Research in Bacteriology C

Special advanced courses will be offered in Immunity and the Technique of Serum Study, and will be open to a limited number of students.

Opportunity will also be given for properly qualified students to pursue research work along varied lines.

PARASITOLOGY

ERNEST E. TYZZER, Ph.B., A.M., M.D., *Professor of Comparative Pathology.*

MARSHALL FABYAN, A.B., M.D., *Assistant Professor of Comparative Pathology.*

CESAR GUZMAN, S.B., M.D., *Assistant in Comparative Pathology.*

Parasitology A

Three afternoons a week (Monday, Wednesday, and Friday) for one month (February).

The student is trained to identify the more important parasites as they appear in the various stages of their development. The diseases of the human being due to parasitic protozoa are also considered with special reference to their identification and life cycles. Human material, cultures, and experimentally infected animals are utilized in the study of these microorganisms. The ectoparasites, especially those concerned in the production or transmission of human diseases, are considered as fully as the allotted time will allow.

Parasitology B

Five mornings a week for three months (March, April, and May).

This course will cover the protozoa, helminthes, and arthropoda concerned in human disease, and also certain animal diseases transmitted to man. The instruction will be adapted to the needs of graduate and special students.

Research in Parasitology C

During the present year research has been being carried on in the following subjects: On the protozoön of blackhead in turkeys; the relation of insects to flagellate disease; research on the life history of a coccidium; and study of certain intestinal protozoa. Properly qualified students desiring to do research work will be welcomed into the laboratory.

PREVENTIVE MEDICINE AND EPIDEMIOLOGY

MILTON J. ROSENAU, M.D., A.M., *Charles Wilder Professor of Preventive Medicine and Hygiene.*

LLOYD D. FELTON, A.B., M.D., *Assistant Professor of Preventive Medicine and Hygiene.*

JOSEPH W. SCHERESCHEWSKY, A.B., M.D., *Associate in Preventive Medicine and Hygiene.*

WALTER L. TREADWAY, M.D., *Associate in Preventive Medicine and Hygiene.*

G. HOWARD BAILEY, S.B., M.D., Dr.P.H., *Instructor in Preventive Medicine and Hygiene.*

G. BENJAMIN WHITE, Ph.B., Ph.D., *Instructor in Preventive Medicine and Hygiene, Director of the Division of Biologic Laboratories, State Department of Public Health.*

WILLIAM A. HINTON, S.B., M.D., *Assistant Director of the Wassermann Laboratory, State Department of Public Health.*

ROBERT N. NYE, A.B., M.D., *Assistant in Preventive Medicine and Hygiene, Assistant Director of the Antitoxin and Vaccine Laboratory, State Department of Public Health.*

H. EVERETT SMILEY, Ph.B., S.M., M.D., *Charles Follen Folsom Teaching Fellow in Hygiene.*

Epidemiology A

Lectures and demonstrations — from January to April, inclusive, Tuesday and Thursday afternoons, 4 to 5.

Field and practical work — afternoons in April.

This course consists of lectures, practical problems, demonstrations and field work. The following subjects will be considered: The epidemiology of a selected group of communicable diseases; the epidemiology of milk, water, air and soil-borne infections; the seasonal prevalence of disease; social relations; the geography of disease; disinfection and disinfectants; management of an epidemic campaign; quarantine and isolation; practical problems. The lectures are designed to give the principles, historical development and methods of epidemiology, with special reference to public health administration of the communicable diseases. A selected course of collateral reading will be recommended. Practical problems will be assigned for solution. These problems will deal chiefly with epidemiological features of some of the common epidemic infections. They are given to illustrate practical problems of public health administration of an epidemiological or statistical nature. Field work and surveys form part of the required work. Each student is expected to write a thesis upon an assigned topic.

Epidemiology B

Advanced work. By arrangement with Professor ROSENAU.

This consists in special investigations of a particular disease or problem from both the field and the laboratory standpoints.

Public Health Laboratory Bacteriology A

Three afternoons a week (Monday, Wednesday and Friday) for one month (February).

A laboratory course of the methods commonly used in public health laboratories for the following diseases: Typhoid fever, tuberculosis, gonorrhea, syphilis, diphtheria, pneumonia, cerebrospinal fever, the Wassermann reaction, rabies, etc.

Preventive Medicine and Hygiene A

One afternoon a week (Friday) 2 to 3 for one month (January).

Two afternoons a week (Monday and Friday) 2 to 3 for four months (February, March, April, and May).

This is a general course given to the third year medical students, consisting of lectures, demonstrations and a sanitary survey. The course

is designed to give a bird's-eye view of the important facts and principles. The subjects covered are those found in Rosenau's "Preventive Medicine and Hygiene." A sanitary survey forms an integral part of this course.

Students are expected to have this course or its equivalent before taking Epidemiology A.

Wassermann Laboratory Work B and C

Dr. W. A. HINTON.

Lectures, demonstrations and actual laboratory work on the Wassermann reaction and the diagnosis of rabies will be given as part of the course in public health laboratory bacteriology.

Special arrangements may be made for further or advanced work for those who desire special training in this field, by consultation with the head of the department and with Dr. Hinton.

Antitoxin and Vaccine Laboratory Work B and C

Drs. G. BENJAMIN WHITE and ROBERT N. NYE.

Exercises consisting mainly of demonstrations of the production and testing of vaccine virus, diphtheria antitoxin, pneumococcus and anti-meningococccic sera and other biologic products will be given as part of the course in public health laboratory bacteriology. Opportunities will be afforded for those who desire special or research work in this field, by arrangement with the head of the department and with Dr. White.

Research in Preventive Medicine and Epidemiology C

During the past year research has been carried on in the following subjects: The transmission of pneumonia; the virulence of the pneumococcus and other microorganisms, including a study of the oxidation reduction potential of the pneumococcus; experimental pneumonia in animals and factors influencing pneumonia; bactericidal and other serologic reactions in pneumonia; the epidemiology of pneumonia; agglutination of the pneumococcus with special reference to the isoelectric point; snake venoms and their immunological reactions; cancer; and mental hygiene with special reference to the industrial worker and the immigrant. Properly qualified students desiring to do advanced work will be welcomed into any of the lines of research which have been reviewed.

COMMUNICABLE DISEASES

EDWIN H. PLACE, M.D., *Assistant Professor of Pediatrics.*

Communicable Diseases A

Five mornings a week for two months (April and May).

The course will be blocked out in such a manner that individual students may take single sections of the work.

Practical experience will be given at the South Department, Boston City Hospital, in the diagnosis, means of isolation, and care of scarlet fever, measles, and diphtheria, supplemented by special exercises in various clinics on pneumonia, typhoid fever, influenza, infantile paralysis, tuberculosis, and venereal diseases.

Research in Communicable Diseases B and C

The South Department of the Boston City Hospital is equipped with 300 beds which are used only by patients with communicable diseases. The two diseases found most frequently in this department are scarlet fever and diphtheria, but all of the other common communicable diseases, such as whooping cough, mumps, measles, chicken pox, tonsillitis, croup, streptococcus sore throats, etc., may be found. During the last year 664 cases of scarlet fever and 1000 cases of diphtheria were cared for in this department.

Arrangements may be made for students to observe the work in the department daily, and to spend from one to six months studying and working with one particular disease. Properly qualified men may also be taken on as regular members of the staff on special internships for a period of 6 or 8 months in order to get a general familiarity with the communicable diseases.

TROPICAL MEDICINE

RICHARD P. STRONG, Ph.B., M.D., S.D., *Professor of Tropical Medicine.*

ANDREW W. SELLARDS, A.M., M.D., *Assistant Professor of Tropical Medicine.*

GEORGE C. SHATTUCK, A.B., M.D., A.M., *Assistant Professor of Tropical Medicine.*

MAX THEILER, M.R.C.S., L.R.C.P., D.T.M.+H., *Assistant in Tropical Medicine.*

Tropical Infectious Diseases A

Three afternoons a week (Monday, Wednesday, and Friday) for two months (December and January).

The course consists of lectures, laboratory work, and clinical instruction.

The most important infectious and other preventable diseases of tropical and foreign countries will be dealt with from the following points of view:

1. The etiology, principles, and modern methods of diagnosis.
2. The methods of transmission and mode of spread.
3. The hygienic problems involved in their control and prevention.
4. The administrative and practical measures to be employed in the control of these diseases under endemic and epidemic conditions.
5. The value of a knowledge of the methods of diagnosis, methods of transmission, prevention, and treatment of the tropical diseases of men and animals in connection with the study, prevention, and treatment of the human infectious diseases in general.

Advanced Work in Tropical and Foreign Medicine B

For students entering the School with the intention of specializing in public health in tropical countries, a series of courses lasting eight months is provided. The program followed must include advanced courses in exotic and tropical diseases in:

1. Practical bacteriology and pathology.
2. Practical protozoölogy and helminthology.
3. Practical entomology.
4. Epidemiology (including field work).
5. Clinical, at infectious diseases hospital.

The courses in bacteriology, protozoölogy, helminthology, and entomology are fundamental in connection with the prevention and control of tropical or exotic diseases. Courses relating to tropical climatology, botany, venomous animals and the biological effects of sunlight in tropical countries will also be of advantage and of particular interest to the health officer who desires a more cosmopolitan experience, and the need for thoroughly trained men in the field of exotic and tropical medicine is especially urgent.

The program for such advanced students will naturally vary in individual cases and must be approved by the Professor of Tropical Medicine before submission to the Administrative Board.

Prerequisite: A degree from an approved medical school is required.

Degrees: Such intensive work may be used as part of the program for a Master's or Doctor's degree.

Courses in Tropical Medicine leading to the degree of Doctor of Medical Sciences or Doctor of Philosophy in Bacteriology (concentrating in the bacteriology and pathology of the Tropical Diseases) from the Harvard Medical School are also open to students who comply with the requirements described for the degree of Doctor of Medical Sciences or Doctor of Philosophy.

Special Clinical Work: There are opportunities from time to time for one or more students to attend clinical work for longer or shorter periods at the Boston City Hospital, where there is a service for tropical and foreign diseases under Dr. George C. Shattuck of the Department.

Research in Tropical and Foreign Medicine C

The research work in progress includes studies in experimental chemotherapy relating to some of the protozoal and trematodal infections and the treatment of patients infected with these organisms with new pharmacological preparations; immunization against Asiatic cholera; the etiology and treatment of amoebic dysentery; and the etiology of tsutsugamushi disease. Properly qualified students desiring advanced work will be welcomed into the laboratory.

PUBLIC HEALTH ADMINISTRATION

Public Health Administration A

Tuesday and Thursday afternoons, 4 to 5, October to January, inclusive. Afternoons in May.

This course consists of lectures, demonstrations and practical field work, given mainly by health officers actively engaged in the work of health administration. The federal, state, municipal and rural situations will be covered; the historical development, budgets and budget making, economic problems, hospital administration and public health education will be discussed; special lectures upon sanitary law by a member of the Faculty of the Harvard Law School will be part of this course.

The lectures given in the year 1922-23 were as follows:

Dr. EUGENE R. KELLEY, <i>Commissioner, State Department of Public Health of Massachusetts:</i>	
<i>State Health Administration</i>	10 lectures
Dr. ALLAN J. McLAUGHLIN, <i>Assistant Surgeon-General, U. S. Public Health Service:</i>	
<i>Federal Health Administration</i>	2 lectures

Dr. CHARLES V. CHAPIN, <i>Superintendent of Health</i> , City of Providence: <i>City Health Administration</i>	6 lectures
Dr. FRANCIS X. MAHONEY, <i>Commissioner</i> , Department of Health, City of Boston: <i>Problems in Public Health Administration</i>	2 lectures
Dr. L. L. LUMSDEN, <i>Surgeon</i> , U. S. Public Health Service: <i>Rural Health Administration</i>	2 lectures
Professor EUGENE WAMBAUGH, <i>Professor of Sanitary Law</i> , Harvard Law School: <i>Sanitary Law</i>	10 lectures
Dr. WILSON G. SMILLIE, <i>Field Director</i> , International Health Board: <i>Hookworm Campaigns, Malarial Prophylaxis and other Activities of the International Health Board</i>	3 lectures
Assistant Professor C. E. TURNER, <i>Assistant Professor of Biology and Public Health</i> , Massachusetts Institute of Technology: <i>Public Health Education</i>	3 lectures
Dr. W. C. RAPPLEYE, <i>Superintendent of the New Haven Hospital and Professor of Hospital Administration</i> , Yale University: <i>Hospital Administration</i>	2 lectures
Mr. CARL RAYMOND, <i>Deputy Commissioner of Budgets of the State of Massachusetts</i> : <i>Budgets and Budget Making</i>	2 lectures

Active coöperation has been effected with the Health Department of the City of Boston, the Massachusetts State Department of Public Health and the activities of the U. S. Public Health Service in and around Boston: also with the City Department of Health of Providence, R. I., of Newton, Mass., and other health departments. Students, therefore, will have an opportunity to see public health administration at first hand as conducted by the federal government, a state, a large metropolitan center, cities of medium size, smaller towns and even rural districts. This work will consist of observational exercises, demonstrations and field work, and is given during the afternoons in May. This time of the year is selected on account of favorable weather conditions for field work, and because at this time the students will have had during the school course the scientific and theoretical ground work on which public health administration rests.

Research in Public Health Administration C

Special opportunities to investigate certain problems in federal, state or city health administration are afforded to students who are specially qualified.

APPLIED PHYSIOLOGY

CECIL K. DRINKER, S.B., M.D., *Associate Professor of Applied Physiology.*

JOSEPH C. AUB, A.B., M.D., *Assistant Professor of Applied Physiology.*

LAWRENCE T. FAIRHALL, M.S., A.M., Ph.D., *Instructor in Applied Physiology.*

GEORGE B. RAY, S.B., A.M., Ph.D., *Instructor in Applied Physiology.*

LOUIS A. SHAW, A.B., *Instructor in Applied Physiology.*

PAUL REZNIKOFF, S.B., M.D., *Assistant in Applied Physiology.*

In the Laboratories of Physiology of the Harvard Medical School and Harvard School of Public Health, the Departments of Physiology, Comparative Physiology, Applied Physiology, and Physical Chemistry coöperate in offering courses of instruction and opportunities for research in the biological and physico-chemical problems of general physiology, comparative physiology, mammalian physiology, and in the physiological problems of general and industrial hygiene. The general courses offered include one of three months, occupying the afternoons of October, November, and December, for dental students, and a more advanced course alternating with bio-chemistry and taking one-half of the four months' period between February 1 and June 1 for medical students. In addition to these somewhat standardized opportunities for instruction, the entire laboratory staff coöperates in offering elective courses in special fields of physiology on Tuesday and Thursday afternoons in monthly blocks throughout the year. In the session of 1922-23 the following elective schedule was presented:

Circulation. Associate Professor C. K. DRINKER.

Physical Chemistry of the Blood. Professor L. J. HENDERSON.

Respiration. Assistant Professor A. C. REDFIELD.

Metabolism and Nutrition. Assistant Professor J. C. AUB.

The Endocrine Glands. Professor W. B. CANNON.

Physical Chemistry of Physiological Processes. Assistant Professor E. J. COHN.

Demonstrations in Mammalian Physiology. Professor W. T. PORTER.

Fundamental Principles underlying the Activity of the Nervous System.

Associate Professor A. FORBES.

Fatigue and Repair. Associate Professor C. K. DRINKER.

A special pamphlet describing the activities of the laboratories in some detail may be had upon application to Dr. A. C. Redfield, Harvard Medical School, Boston.

The direct relations of physiology to hygiene are cared for by the Department of Applied Physiology. The course offered to students in the School of Public Health is of advanced grade, requiring physiological knowledge equivalent to that obtained in the usual course in physiology in the medical schools and in addition a working knowledge of microscopical anatomy, pathology, and bio-chemistry.

Applied Physiology B

Associate Professor CECIL K. DRINKER and associates.

October and November: Monday, Wednesday, and Friday afternoons from 2 until 3.30.

Fatigue and Repair. September 24 to October 10.

Eight exercises introduced by a review of the physiological organization of the neuromuscular apparatus and followed by a discussion of such subjects as practice, fatigue and repair in physiological processes, and industrial fatigue.

Hearing and Vision. October 12 to October 15.

A brief discussion of the physiology of hearing and of vision with special reference to the physiology of tests for acuity of both these senses.

Circulation. October 17 to November 7.

The physiology of blood formation and blood destruction will be followed by a discussion of lymph formation and lymph drainage. The circulation of the blood will be discussed with particular reference to the physiology of cardio-vascular breakdown and the methods now available for testing circulatory efficiency.

Respiration. November 9 to November 23.

The physiology of respiration will be reviewed and will lead to a discussion of the effects of high and low atmospheric pressures, carbon monoxide, carbon dioxide, and the commoner non-toxic dusts such as carbon, cement, silica, talc, etc.

Heat, Light, and Humidity. November 26 to November 29.

The physiological effects of light, heat, and humidity will be treated from the point of view of the action of each of these agents upon working capacity.

Research in Applied Physiology C

Research is now in progress upon the pulmonary circulation and its relation to lung ventilation and infection. Another closely related series of investigations deals with the question of the origin of lung fibrosis and the relation of different dusts to the process. These researches are concerned not only with the deposition and fate of foreign material in the lung, but also with the problem of phagocytosis of inert material since phagocytosis has been shown to play such an important part in the broad question of the pneumokonioses. The laboratory is also engaged in testing different devices used in resuscitation from illuminating gas poisoning and in examining the fundamental nature of the condition.

An extended study of lead poisoning is in progress which covers not only the chemical problems of lead poisoning but deals with the clinical and field aspects of the subject.

Properly qualified students desiring advanced work will be welcomed into any of the lines of research which have been reviewed.

INDUSTRIAL HYGIENE

The especial interests of industrial hygiene are covered by the departments of Industrial Medicine, Industrial Toxicology, and Ventilation and Illumination. For the sake of convenience, statements of the work available in each of these branches are grouped under the heading of Industrial Hygiene. Students whose major interest falls in this field will also find it profitable to take courses in Vital Statistics, Sanitary Engineering, Mental Hygiene, and Applied Physiology.

INDUSTRIAL MEDICINE

DAVID L. EDSALL, A.M., M.D., S.D., *Jackson Professor of Clinical Medicine.*

ALICE HAMILTON, M.D., A.M., *Asst. Professor of Industrial Medicine.*

ROGER I. LEE, A.B., M.D., *Henry K. Oliver Professor of Hygiene.*

WADE WRIGHT, S.B., M.D., *Instructor in Industrial Medicine.*

W. IRVING CLARK, Jr., A.B., M.D., *Instructor in the Practice of Industrial Medicine.*

ARTHUR B. EMMONS, 2d, A.B., M.D., *Instructor in the Practice of Industrial Medicine.*

LOUIS R. DANIELS, M.D., *Instructor in the Practice of Industrial Medicine.*

HARRY LINENTHAL, A.B., M.D., *Instructor in Industrial Medicine.*

JOHN W. S. BRADY, A.B., M.D., *Instructor in Industrial Medicine.*
 HAROLD W. STEVENS, A.B., M.D., *Assistant in Industrial Medicine.*
 DERRIC C. PARMENTER, A.B., M.D., *Assistant in Industrial Medicine.*

Special lectures and instruction were given in 1923 by Erwin Schell, S.B., Assistant Professor of Economics, Massachusetts Institute of Technology; Alice F. Blood, Ph.D., Director of School of Household Economics and Professor of Dietetics, Simmons College; and Elizabeth McShane, A.B., Research Assistant in Industrial Clinic, Massachusetts General Hospital.

Industrial Medicine A

Daily, all day for one month (February) with the exception of Tuesday, Thursday, and Saturday afternoons.

It is the purpose of this course to offer within a brief period a moderately comprehensive survey of industrial medicine and of the methods of industrial medical practice. It is adapted to the requirements of students unable to spend a longer period in the School and to students pursuing a more general course of instruction, but desiring some knowledge of the special field of industrial hygiene. Students whose interests are essentially in industrial hygiene may supplement this course with Industrial Hygiene B which is to be a continuation of Industrial Hygiene A.

The course will include lectures, field visits and clinical exercises. The subjects to be considered and the approximate number of hours to be devoted to each are as follows:

Industrial Toxicology — Asst. Professor HAMILTON.	30 hours
Ventilation and Illumination — Mr. PHILIP DRINKER.	10 hours
Industrial Medical Practice — Dr. W. IRVING CLARK, Jr.	8 hours
Industrial Medicine — Dr. WADE WRIGHT.	8 hours
Factory Sanitation and Hygiene — Dr. WADE WRIGHT.	4 hours
Mercantile Health Work — Dr. A. B. EMMONS, 2d.	2 hours
Clinical Exercises — Dr. WADE WRIGHT.	12 hours
Field Visits.	30 hours

Industrial Medicine B

Daily, during the month of March with the exception of Tuesday, Thursday, and Saturday afternoons.

WADE WRIGHT, M.D., *Instructor in Industrial Medicine.* With the co-operation and assistance of special lecturers, instructors, and assistants.

A course supplementing Industrial Hygiene A, purposed to meet the requirements of students preparing for work in industrial medicine.

It will include lectures upon such topics as industrial organization and methods of operation, labor legislation, psychiatry in industry, rehabilitation of the handicapped, and various other special topics. As in Industrial Hygiene A, field visits will be made to industrial establishments in the vicinity of Boston.

Research in Industrial Medicine C

Opportunities for research and special study will be open to properly qualified students through the following courses. Additional special courses can be arranged.

Industrial Medicine C-1—Professor ROGER I. LEE.

Students will have opportunities for special study or research in the Department of Hygiene in Cambridge. The length of time which will be spent in such special or research work will of course depend upon the nature of the study. Ordinarily no student will be taken for less than several months' work.

The Department of Hygiene in Cambridge has complete charge of the health of the students in the Cambridge section of Harvard University. It is thus possible to see the actual work of an organization designed to supervise health. Here will be found the actual carrying out of physical examinations on a large scale, the daily holding of sick-call, the common illnesses of students, sanitary inspection, and the utilization of various methods for increasing popular information concerning public health by formal courses. There are available recreation facilities, not only for the athlete, but for the mass of students, physical training for the purpose of developing better bodily mechanics, better posture, and better care of the feet, and physical exercise to those who are physically handicapped. There are favorable opportunities for the intensive study of problems of metabolism and exercise.

Research has been carried out the past year among the students at Harvard University along the following lines: The determination of standards in physical examination in the student group; chest measurement as a gage of body weight; presence of systolic murmurs in normal individuals; albuminuria in normal individuals; sex and personality studies in normal individuals.

Industrial Medicine C-2—Dr. WADE WRIGHT.

The Industrial Clinic at the Massachusetts General Hospital is operated under the joint administration of the Hospital and the Harvard School of Public Health.

While contributing directly to the study and care of patients admitted to the Hospital the clinic presents exceptional opportunities for research in the field of industrial medicine. There were 198,622 visits made to the Out-Patient Department of the Hospital during 1922 and of these 28,193 were made by new patients, including industrial workers drawn from a vast number of industries and trade processes. The Industrial Clinic is in immediate contact with all such patients. The Clinic Staff is engaged not only in the study of clearly defined occupational diseases but in the consideration of the less specific relations of occupation and physical disability.

During the past year much attention has been devoted to the consideration of industrial poisonings, particularly lead poisoning. An intensive study of the records of hospital cases of lead poisoning is being carried on. There have also been conducted investigations of the origin and nature of industrial dermatoses; and a clinical study of the health of the felt hatters and hatters' fur workers with special consideration of the incidence of mercury poisoning. An extensive report was made to the Children's Bureau of the U. S. Department of Labor, concerning the protection of the health of young industrial workers.

Industrial Medicine C-3—Dr. WADE WRIGHT.

The Instructor of Industrial Medicine through affiliations with the medical departments of various industrial and mercantile organizations is in a position to arrange periods of training and study in industrial and mercantile establishments. Industrial physicians are convinced of the necessity of including practical instruction in industry itself as a part of the training of industrial medical personnel. Such conviction offers assurance that the industrial medical services coöperating with the School of Public Health will endeavor to make fully available to suitable students such teaching facilities as the respective industrial establishments may possess.

VENTILATION AND ILLUMINATION

PHILIP DRINKER, S.B., Ch.E., Instructor in Ventilation and Illumination.
R. M. THOMSON, Assistant in Ventilation and Illumination.

Ventilation and Illumination B

Monday, Wednesday, and Friday afternoons for two months (December and January).

This course will cover a period of four weeks. On three days a week lectures or demonstrations of about one hour each will be given. There

will be an opportunity for a limited number of duly qualified students to work in the laboratory five mornings a week for one month. The subjects offered will be the following:

1. The measurement of air flow with use of the Pitot tube, Venturi meter, orifice meter, wet and dry gas meters, hot wire resistance meters, continuous recording devices and manometers.
2. Psychrometry: Determinations of humidity with wet and dry bulb psychrometers, hair psychrometers, and recording devices.
3. The use of the Kata-Thermometer.
4. Experiments in air conditioning supplemented by visits to buildings and factories using various types of air conditioning equipment.
5. Physiological aspects of air conditioning by direct experimentation with the effects of temperature, humidity, and carbon dioxide, with the application of these factors to ventilation efficiency.
6. The determination of dust, fumes and smokes in air by filters, water scrubbers, Tyndallmeter, and Cottrell precipitator. The effects of particle size, count, humidity, and temperature. Commercial methods of handling dust, smoke, fumes, etc.
7. Physiological and pathological aspects of the above, illustrated by autopsies and microscopic examinations of the lungs of animals exposed to different dusts.
8. Photometric studies of illumination and illumination efficiency supplemented by visits to factories and buildings.

Research in Ventilation and Illumination C

The investigations now in progress in this field consist essentially of the quantitative determination of particulate matter in the air, such as dust, smokes, and fumes, and the methods by which particulate matter can be eliminated or rendered inoffensive. Since a knowledge of the size and physical state of the particles involved is fundamental to the selection of the method for their quantitative determination, methods of studying the finer structure and physical characteristics of dusts, fumes, and smokes, and their physiological significance as hygienic problems are under investigation.

A limited number of duly qualified students will be given an opportunity for research work in this field or in the selected topics covered in the general course.

VITAL STATISTICS

EDWIN B. WILSON, A.B., Ph.D., *Professor of Vital Statistics.*

Vital Statistics A

Five mornings a week for two months (December and January).

The elementary course in Vital Statistics will consist of lectures and laboratory work designed to familiarize the student with the facts already well established in this field, with the methods of graphical representation, and with the basic theory of probability and correlation necessary alike for the proper analysis of statistical data, and for the adequate layout of any contemplated statistical survey.

Text: G. C. WHIPPLE, *Vital Statistics.*

References: ARNE FISHER, *Mathematical Theory of Probabilities.*

D. C. JONES, *Course in Statistics.*

A knowledge of the elements of the infinitesimal calculus, though not a prerequisite for the elementary course, is desirable, and is indispensable for all really critical or advanced work in statistics.

Biomathematics A

Tuesday and Thursday afternoons in October and November.

Lectures on certain aspects of mathematics in their relation to the biological sciences. Arithmetic and algebra, symbolism, permanence of form, exponents, permutations and combinations, binomial theorem, constants and variables, uniform rates, uniformly varying rates (accelerations), integrated rates, areas, limits of quotients and sums, infinitesimals, functions, differentials, derivatives, integrals, law of organic growth (Malthus), logarithms, exponentials, inverse functions, mathematical tables, interpolation, summation, law of unimolecular reaction, law of autocatalytic or buffer action, environmental inhibition of growth, treatment of experimental data, empirical equations and the determination of natural laws, probability, curve-fitting, the statistical or kinetic view of equilibrium in nature.

Vital Statistics B

Students who have a satisfactory elementary knowledge of statistics and calculus will be directed in their reading of more advanced operations of Vital Statistics, including the theory of frequency curves.

References: ARNE FISHER, *Mathematical Theory of Probabilities.*

D. C. JONES, *Course in Statistics.*

G. U. YULE, *Statistics.*

Research in Vital Statistics C

Opportunities for special research work in Vital Statistics are open to students whether specializing in Vital Statistics or primarily in some other field of work, who desire to make a statistical investigation of their own connected with the public health, or who may desire to coöperate in the general program of statistical research of the department.

Investigations are in progress or planned; with respect to hospital statistics of particular diseases using the large amount of material available in the hospitals associated with the School; with respect to the incidence of diseases with special reference to particular industries in coöperation with Dr. Wade Wright and his associates in industrial hygiene or in coöperation with industries which may desire such investigations as a rational basis of the health programs for their employees; and with respect to the inter-relations of Vital Statistics and economic phenomena.

Research in Biomathematics C

Opportunities are offered to students who desire to pursue the quantitative and theoretical sides of various biological problems of a non-statistical nature or of a nature statistical in another sense than generally implied in the technical term Vital Statistics.

The Statistical Laboratory

The laboratory for instruction and research in Vital Statistics is housed on the second floor of the building of the School of Public Health on Van Dyke Street, and is equipped with various graphical and mechanical aids including sorting, tabulating and calculating machinery.

SANITARY ENGINEERING

GEORGE C. WHIPPLE, S.B., *Professor of Sanitary Engineering.*

GORDON M. FAIR, S.B., *Instructor in Sanitary Engineering.*

MELVILLE C. WHIPPLE, *Instructor in Sanitary Chemistry.*

The Principles of Sanitary Engineering A

Five mornings a week for two months (October and November) at Pierce Hall, Cambridge.

Professor WHIPPLE and Mr. FAIR.

A course of lectures and laboratory work arranged especially for students in the School of Public Health. The lectures will cover the

following topics:— (a) Municipal Sanitation; (b) Water Supply and Water Purification; (c) Plumbing; (d) Sewerage and Sewage Treatment; (e) Disposal and Treatment of Wastes; (f) Building Sanitation; (g) Rural Sanitation.

In the laboratory the students will have opportunity to become familiar with the apparatus and instruments used in connection with studies of water purification and sewage treatment; they will be taught how to interpret water analyses and how to read engineering plans. In the field they will be taught how to make sketches and reports of engineering works. Arrangements will be made for students to visit water purification works, sewage treatment works and other works of sanitation in the vicinity of Boston, accompanied by an instructor.

Water and Sewage Analysis B

Five mornings a week for one month (February) at Pierce Hall, Cambridge.

Mr. MELVILLE C. WHIPPLE and Mr. FAIR.

A short practical course of lectures and laboratory work for those students who desire to supplement the course in Sanitary Engineering by a further study of water, sewage, and waste analysis. Special attention will be given to the use of analyses in the control of processes of water purification, sewage treatment works, and to the interpretation of analytical results. The topics covered will be Color, Turbidity and Odor of Water; Microscopic Examinations; Bacterial Counts and Tests for B. Coli; Dissolved Oxygen and Carbonic Acid; Hardness; Chlorine, the Nitrogen Cycle, etc.

Research in Sanitary Engineering C

During the past year research has been carried on in the following subjects: A critical study of new methods of water analysis; investigation of some of the underlying pneumatic and hydraulic principles of plumbing systems; the corrosion of pipes; control of mosquitoes in the Boston Metropolitan Area. There will be an opportunity for properly qualified students to pursue advanced work in this field.

MENTAL HYGIENE

C. MACFIE CAMPBELL, A.M., S.B., M.B., Ch.B., M.D., *Professor of Psychiatry.*

With the coöperation and assistance of special lecturers, instructors, and assistants.

Mental Hygiene A

Daily, all day for one month (February) except Tuesday, Thursday, and Saturday afternoons.

This course, under the direction of Professor Campbell, offers the student opportunity for becoming familiar with the general field of mental hygiene and with its relations to other aspects of public health.

Mental Hygiene covers not only the traditionally recognized conditions of mental disorders ("Insanity") and defect ("Feeble-mindedness"); it deals also with manifold forms of apparent physical incapacity (including the "psychoneuroses"), with many social problems (prostitution, alcoholism, vagrancy), with maladjustments in home, in school, in industry.

The course will include a review of the fundamental principles of abnormal psychology, of the main types of mental abnormality, of the prevention, management and treatment of the personal and social factors involved in these disorders, and of the organization by the community of the necessary facilities for dealing with these problems.

The course will consist of lectures, clinical demonstrations, visits to hospitals, courts and other organizations, with supervised reading and opportunities for intensive clinical study along special lines (neurosyphilis, school hygiene, delinquency).

Elementary Mental Hygiene

Mondays 4 to 5, for three months (March, April and May).

This is a preliminary course on Medical Psychology given to the first-year medical students, consisting of lectures by Professor C. MACFIE CAMPBELL, M.D.

Research in Mental Hygiene C

Students holding the degree of Doctor of Medicine who satisfy the professor of their qualifications to do advanced work in Mental Hygiene may spend from one to six months under the guidance of Doctor Campbell, working at the Boston Psychopathic Hospital. Here there is exceptional clinical material available and the student will have an opportunity at the bedside, in the various laboratories and in the out-patient department to study the problems related to mental instability, mental defect and mental disorders, both in adults and in children; the student can become familiar with the psychiatric aspect of such topics as prostitution, alcoholism, delinquency and many other social and public health problems. Those interested in a special topic of research will find the

necessary clinical material available, and it will be possible for the student to make use of material in other institutions than the Boston Psychopathic Hospital.

CHILD HYGIENE

RICHARD M. SMITH, A.B., M.D., *Assistant Professor of Child Hygiene.*

With the coöperation and assistance of special lecturers, instructors, and assistants.

Child Hygiene A

This course will be given during the month of March. It will occupy all of the time during the month except that given to certain courses continuing throughout the year, on Tuesday and Thursday afternoons. Additional time may be given to this subject by special arrangement with Dr. SMITH.

Instruction will consist of lectures and conferences, and in observation of work in the field done under public and private direction. The State Department of Public Health offers facilities for the study at first hand of a well-organized Division of Child Hygiene. The Child Hygiene Department of the Community Health Association illustrates the methods of work used in private organizations. Visits will be made to a Health Unit of the Boston Department of Health and to the headquarters of the Boston Health League. Prenatal clinics, post-natal baby clinics, child welfare clinics, and work among school children will be demonstrated in actual operation. Illegitimacy will be presented through the work of the Florence Crittenton Home. Retarded mental development will be discussed in connection with visits to the State School at Waverley and to the Judge Baker Foundation. Lectures on other special subjects of child hygiene will be given and visits made to associations in and near the city.

During the year 1922-23 special lectures and instruction were given by the following:

Miss Mary Beard, R.N.	William Healy, M.D.
Merrill E. Champion, M.D.	Percy R. Howe, D.M.D.
William P. Cooke, D.M.D.	Foster S. Kellogg, M.D.
Robert D. Curtis, M.D.	Miss Winifred Rand, R.N.
Robert L. DeNormandie, M.D.	Alfred P. Rogers, D.M.D.
Walter E. Fernald, M.D.	Fritz B. Talbot, M.D.
John W. Fish, M.D.	Douglas A. Thom, M.D.
Joel E. Goldthwait, M.D.	G. Benjamin White, M.D.

Research in Child Hygiene C

It will be possible for qualified students to investigate any phase of child hygiene. This work can be done in connection with the State Department of Health or with the Community Health Association. It will also be possible for qualified students to be assigned to clinics where they will be given an opportunity to take responsibility and conduct work in accordance with the policies of the association doing the work. Arrangements can be made for the publication of results of these special studies.

In the year 1922-23 the following program was arranged for a student who wished to specialize in Child Hygiene: Three days a week for two months and study in the wards at the Boston Dispensary; two days a week for two months at the Health Centres in Hyde Park and Brighton; one day a week for two months at the Food and Nutrition Classes at the Boston Dispensary: and one full month of Pediatrics given in the Graduate School of Medicine. It was arranged for another student who wished to do some special work in Child Hygiene to spend every morning for several months at the Children's Hospital, under the Professor of Pediatrics.

COURSES IN OTHER DEPARTMENTS OF THE UNIVERSITY

Students in the School of Public Health may take courses in other departments of the University subject to the following conditions: (1) Students must be properly qualified; (2) the consent of the professor in charge of the course must be obtained in each case; (3) the approval of the Administrative Board of the School of Public Health must be procured before one of these courses may be included as a part of a program.

MEDICAL SCHOOL

The Medical School is very closely affiliated with the School of Public Health, and the courses offered are open to students in this School. Of special interest to students in public health is the very unusual group of courses offered by the Medical School on Tuesday and Thursday afternoons, covering a wide range of subjects. A special bulletin is issued describing these courses. The research facilities of some departments of the Harvard Medical School present valuable opportunities for students in public health.

GRADUATE SCHOOL OF MEDICINE

The Graduate School of Medicine offers courses from October to June, most of which last one month, to graduates of Class A medical schools. Another group of short courses is given from June 1st to September 30th. These courses are open also to properly qualified undergraduate students and women. Courses in Surgery and Roentgenology and in Pediatrics have been found especially valuable for public health students.

ENGINEERING SCHOOL

A number of courses are offered in the Engineering School which are closely related to public health. There are also facilities in the Engineering School for students wishing to do advanced research work along public health lines from the engineering standpoint.

GRADUATE SCHOOL OF EDUCATION

Public health students who are planning to teach public health or who wish to make a study of the educational side of public health may take courses in the Graduate School of Education, which offers such courses as The Principles of Educational Psychology and Mental Hygiene, School Hygiene, The Clinical Testing of Children, Problems in Mental and Physical Development, etc.

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

Students specializing in Industrial Hygiene or Public Health Administration may take special courses in the Graduate School of Business Administration, as Industrial Management, Business Statistics, etc.

FACULTY OF ARTS AND SCIENCES

Some courses offered by the Faculty of Arts and Sciences, more especially in the Graduate School, have been found useful for students in public health, such as advanced work in Psychology, Chemistry, Zoölogy, Housing, etc.

BUSSEY INSTITUTION — GRADUATE SCHOOL OF APPLIED BIOLOGY

The Bussey Institution offers opportunities for graduate instruction and research in those principles and problems which underlie the practical applications of zoölogy and botany to human welfare.

COURSES IN MASSACHUSETTS INSTITUTE OF TECHNOLOGY

The School of Public Health maintains close coöperation with the Massachusetts Institute of Technology. A group of courses given at the Massachusetts Institute of Technology not listed in this catalogue is open to the students in the School of Public Health, and may, with the approval of the Administrative Board, be included in a general program and will be counted toward a degree.

Catalogues of the various schools listed above will be sent upon application to the Secretary of the Harvard School of Public Health, 55 Van Dyke Street, Boston 17, Mass.

OPPORTUNITIES FOR CLINICAL WORK BY SPECIAL ARRANGEMENT

The Harvard School of Public Health can make arrangements for students desiring special clinical work in the various local hospitals. In the year 1922-23 clinical courses lasting one month in Industrial Surgery and in Roentgenology were arranged at the Massachusetts General Hospital and the Boston City Hospital. Arrangements were also made for clinical work in Pediatrics at the Boston Dispensary and the Children's Hospital, also in coöperation with the official and unofficial health agencies in health centers, hygiene stations, etc.

OPPORTUNITIES FOR LABORATORY RESEARCH BY SPECIAL ARRANGEMENT

The Harvard School of Public Health can make arrangements for students desiring special laboratory work in the various city, state and private laboratories. Several students have done work of this kind in the Antitoxin and Vaccine Laboratory of the State during the past year.

OPPORTUNITIES FOR FIELD WORK BY SPECIAL ARRANGEMENT

The Harvard School of Public Health can secure opportunities for students desiring special field work not offered in this School by individual arrangements with the State and City Boards of Health, or with the many health agencies that are active in and near Boston.

STUDENTS *

Allen, Katherine Lewis Metcalf (*Boston Univ.*), Newton Centre
Child Hygiene.

Amaral, Afranio do, M.D. (*Bahia Medical School*) 1916, Bahia, Brazil
Immunology.

Bauman, Claire Sylvester, M.D. (*Harvard Medical School*) 1921, Lock Haven, Penn.
Industrial Hygiene.

Beale, Reginald Vincent (*Boston Univ.*), Wrentham
Public Health Administration.

Bittner, Guy Clement, B.S. (*Allegheny Coll.*) 1922, Meadville, Pa.
Sanitary Bacteriology.

Drbohlav, Jaroslav, M.D. (*Univ. of Prague*) 1917, Prague, Czechos.
Parasitology.

Field, Mary Bates, Brookline
Mental Hygiene.

Freund, Jules Louis, M.D. (*Univ. of Budapest*) 1913, Budapest, Hungary
Immunology.

Gonzaga, Octavio, M.D. (*Rio Medical School*) 1908, Sao Paulo, Brazil
Child Hygiene.

Hellenbrand, Ralph Wellington, A.B. (*Bowdoin Coll.*)
 1903, M.D. (*Johns Hopkins Univ.*) 1907, Old Town, Me.
Public Health Administration.

Johan, Bela, M.D. (*Univ. of Budapest*) 1912, Budapest, Hungary
Research in the Preparation of Serum and Vaccine Production.

Johnson, Linwood Hill, M.D. (*Bowdoin Medical School*)
 1915, Portland, Me.
Industrial Medicine.

Khan, Saranjam, B.S. (*Lahore Govt. Coll.*) 1911, M.D.
 (*Lahore Medical Coll.*) 1915, Bannu, India
Tropical Medicine.

Labecki, Wiktor, M.D. (*Krakow Univ.*) 1909, Skieriewice, Poland
Child Hygiene.

Lincoln, Grace, A.B. (*Wellesley Coll.*) 1911, Fall River
Mental Hygiene.

* In each case the subject in which the student is majoring is mentioned.

Lubczynski, Jozef, M.D. (*Krakow Univ.*) 1912, Warsaw, Poland
Child Hygiene.

Mlecochova, Ludmila, M.D. (*Univ. of Prague*) 1919, Kroilow Pyle, Czechos.
Water and Sewage Analysis.

Pedley, Frank Gordon, B.A. (*McGill Univ.*) 1913, M.D.
(*McGill Univ. Medical School*) 1916, C.P.H. (*Johns Hopkins Univ. School of Hygiene and Public Health*)
1921, Quebec, Canada
Industrial Hygiene.

Robbins, Charles Walter (*Univ. of Vermont*) Auburn, Me.
Public Health Administration.

Robertson, Duncan Glenrochie, M.D. (*Edinburgh Univ.*) 1911, D.P.H. (*ibid.*) 1912, Melbourne, Australia
Industrial Hygiene.

Robertson, James Murray, M.B. (*Univ. of Toronto*)
1918, Quebec, Canada
Public Health Administration.

Sappington, Clarence Olds, A.B. (*Whitman Coll.*) 1911,
M.D. (*Stanford Univ. Medical School*) 1918, San Francisco, Calif.
Industrial Hygiene.

Slabihoudek, Frantisek, M.D. (*Univ. of Prague*) 1922, Prague, Czechos.
Housing.

Sollgruber, Karl, M.D. (*Univ. of Graz*) 1920, Stiris, Austria
Child Hygiene.

Tomanek, Ewald, M.D. (*Univ. of Prague*) 1909, C.P.H.
(*Harvard-Technology School of Public Health*) 1921,
Chvalkovice-Olomocec, Czechos.
Epidemiology.

Urbanek, Karel, M.D. (*Univ. of Prague*) 1910, Prague, Czechos.
Tropical Medicine.

Voprsal, Josef, (*Bohemian Polytechnic in Prague*), Prague, Czechos.
Industrial Hygiene.

Wetmore, Mary Ina Miles, M.D. (*Tufts Medical School*)
1900, Jamaica Plain
Public Health Administration.

TABULAR VIEW

		OCTOBER	NOVEMBER	DECEMBER	JANUARY
A.M.	Principles of Sanitary Engineering A	Principles of Sanitary Engineering A	Vital Statistics A	Vital Statistics A	
P.M. Tuesday and Thursday	Pub. Health Admin. A or Epidemiology A. 4-5 Bio-Mathematics A	Pub. Health Admin. A or Epidemiology A. 4-5 Bio-Mathematics A	Pub. Health Admin. A or Epidemiology A. 4-5	Pub. Health Admin. A or Epidemiology A. 4-5	
Monday Wednesday and Friday	Bacteriology A Applied Physiology B. 2-3.30	Bacteriology A Applied Physiology B. 2-3.30	Bacteriology A Tropical Medicine A Ventilation and Illumination A	Bacteriology A Prev. Medicine A. 2-3 Tropical Medicine A Ventilation and Illumination A	Bacteriology A Prev. Medicine A. 2-3 Tropical Medicine A Ventilation and Illumination A
		FEBRUARY	MARCH	APRIL	MAY
A.M.	Water and Sewage Analysis B Mental Hygiene A (All day) Industrial Medicine A (All Day)	Parasitology B Industrial Medicine B (All day) Child Hygiene A (All day)	Parasitology B Communicable Diseases A	Parasitology B Communicable Diseases A	Parasitology B Communicable Diseases A
P.M. Tuesday and Thursday	Pub. Health Admin. A or Epidemiology A. 4-5	Pub. Health Admin. A or Epidemiology A. 4-5	Pub. Health Admin. A or Epidemiology A. 4-5	Pub. Health Admin. A or Epidemiology A. 4-5	Pub. Health Admin. A or Epidemiology A. 4-5
Monday Wednesday and Friday	Prev. Medicine A (Mon. and Fri. 2-3) Parasitology A Pub. Health Bact. A	Prev. Medicine A (Mon. and Fri. 2-3) Elem. Mental Hygiene (Mondays 4-5)	Prev. Medicine A (Mon. and Fri. 2-3) Elem. Mental Hygiene (Mondays 4-5)	Prev. Medicine A (Mon. and Fri. 2-3) Elem. Mental Hygiene (Mondays 4-5)	Prev. Medicine A (Mon. and Fri. 2-3) Elem. Mental Hygiene (Mondays 4-5)
			Epidemiology A. Field Work	Epidemiology A. Field Work	Epidemiology A. Field Work

Advanced courses, special courses, and courses in research are not included in this list. This tabular view is given for convenience and should not be regarded as representing approved courses in the sense that any combination of these courses necessarily represents a satisfactory program. Most students, and all students who are candidates for higher degrees, may include in the program courses not listed here, and perhaps courses not formally listed in the catalogue.

OFFICIAL REGISTER OF HARVARD UNIVERSITY

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These publications include:—

The Annual Reports of the President and of the Treasurer.
The Annual University Catalogue.
The Annual Catalogues of the College and the several Professional Schools of the University; the Descriptive Pamphlet; the Announcements of the several Departments; etc., etc.